

# Receiving Report

Date: B/E

Batch No: 130566

Supplier: 14-10-8

Dart P/O: 26028

Packing Slip: Yes ☒ No ☐  
 Invoice: Yes ☒ No ☐  
 Receipt: Cash ☐ Cr ☒  
 New Supplier Yes ☐ No ☒

Release Note Attached: Yes ☒ No ☐ N/A ☐  
 Waybill Attached: Yes ☒ No ☐  
 Shipment Complete: Yes ☐ No ☒ N/A ☐  
 QC18 Inspection ☐ N/A ☒  
 Work Order ☐ N/A ☒

## Discrepancies

Part Number	Description	Quantity Ordered	Quantity Rec'd	Quantity Short	Quantity Inspected	Quantity Rejected	Comment / NCR Number

Initials of Receiver

QC12

Production/Admin: ☐  
 Date: ☐  
 Received/Costing: ☐  
 Initial: ☐

Location



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO26028**

Purchase Order Date 10/6/2014

PO Print Date 10/6/2014

Page Number 1 of 3

**Order From :**

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

VU-BEA001

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**FAKED**

**Contact Name**

**Vendor Phone** 305-925-2600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** FedEx Overnight collect

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	NAS1611-013	O-RING	10/8/2014 Yes 10/8/2014		200.00 Each	\$0.35	\$70.00
Line Total:							\$70.00
2	NAS43DD3-10FC 241	Spacer	10/8/2014 Yes 10/8/2014	FN	40.00 Each	\$0.40	\$16.00
Line Total:							\$16.00
3	AN3-12A 349.	Bolt	10/8/2014 Yes 10/8/2014	FN	200.00 Each	\$0.15	\$30.00

8014-10-8

Note:

10/6/2014

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO26028

Purchase Order Date 10/6/2014

PO Print Date 10/6/2014

Page Number 2 of 3

**Order From :**

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

VU-BEA001

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 305-925-2600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** FedEx Overnight collect

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

**Line Total:** \$30.00

4	MS27039C0819	Screw	10/8/2014	FN	200.00	✓	\$2.07	\$414.00
	286		Yes		Each			
			10/8/2014					

**Line Total:** \$414.00

5	MS27039C1-07	screw	10/8/2014		50.00	✓	\$0.75	\$37.50
	288		Yes		Each			
			10/8/2014					

**Line Total:** \$37.50

8P14-10-8.

**Note:**

10/6/2014

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO26028**

Purchase Order Date 10/6/2014

PO Print Date 10/6/2014

Page Number 3 of 3

**Order From :**

VU-BEA001

B/E AEROSPACE INC  
88289 EXPEDITE WAY  
CHICAGO, IL 33172  
USA

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 305-925-2600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** FedEx Overnight collect

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #** 10127-2607

**Terms** Net 30

**Currency** USD

**FOB** FCA - (Free Carrier)

6	71401-45	PROCUREMENT QUALITY CLAUSES	10/8/2014	1.00 ✓	\$0.00	\$0.00
---	----------	--------------------------------	-----------	--------	--------	--------

No

**Procurement Quality Clauses**

10/8/2014

A005 RIGHT OF ENTRY

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A032 PUBLIC LAW 101-592 FASTENER QUALITY ACT

A033 STATEMENT OF CONFORMITY/TEST RECORDS

FOR NAS, AN and MS FASTENERS

A040 NOTIFICATION OF QUALITY ESCAPE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENTS

**Line Total:** \$0.00

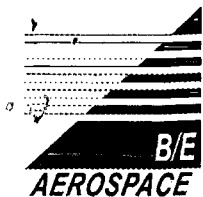
**PO Total:** \$567.50

CL

**Note:** Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Change Nbr: 1

Change Date: 10/6/2014



# B/E Aerospace, Inc.

## CONSUMABLES MANAGEMENT

Tel: +1.305.925.2600 • Fax: +1.305.507.7191 • www.beconsumables.com

Remit to Address: 88289 Expedite Way, Chicago, IL 60695-0001

Wire Instructions: B/E Aerospace Consumables Management • JPMorgan Chase Bank New York

ABA: 021000021 • Account: 304639273 • SWIFT: CHASUS33 • CHIP UID: 0002

INVOICE NUMBER

HWMJYT

PAGE 1

SOLD TO:

002409  
DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7

SHIP TO:

DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7

ORDER NO. PO26028		DATE 10/07/14	SHIP VIA FEDX INTL P1 COLL		TERMS NET 45		SHIPPING TERMS FOB-MIAMI	
ITEM NO.	QUANTITY ORDERED	PART NUMBER AND DESCRIPTION		PRICE	UNIT	BACK ORDER	SHIPPED	AMOUNT
2	40	NAS43DD3-10FC Description SPACER, SLEEVE-SCREW ECCN :9A991 MFR: MINI MAC CTRL#: 2013H20321 LOT#: 0081939 LOT QTY: 40 Country of Origin USA  <i>These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.</i>		0.400	EA	0	40	16.00
***CONTINUED***								
MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE								

ALL ITEMS ARE SUBJECT TO A 100% RESTOCKING CHARGE.

SHIPPED FROM: 10000 NW 15 TERRACE, MIAMI, FL 33172

**MATERIAL CERTIFICATION:** B/E AEROSPACE, INC. ("B/E AEROSPACE") WARRANTS THAT THE ITEMS SUBJECT OF THIS INVOICE WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP AND, AS SET FORTH ON THE MATERIAL CERTIFICATION FORM ACCOMPANYING THE ITEMS SUBJECT OF THIS INVOICE, ARE IN CONFORMITY WITH ALL CURRENT GOVERNMENTAL REQUIREMENTS AND THE SPECIFICATIONS OF THE RESPECTIVE MANUFACTURERS. B/E AEROSPACE DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. THE LIABILITY OF B/E AEROSPACE IS EXPRESSLY LIMITED EXCLUSIVELY TO REPLACEMENT OF ANY ITEM WHICH IS REJECTED BECAUSE OF A DEFECT IN MATERIAL OR WORKMANSHIP SUCH REPLACEMENT SHALL CONSTITUTE SATISFACTION OF ALL LIABILITY B/E AEROSPACE MAY HAVE IN CONNECTION WITH SUCH ITEM, WHETHER LIABILITY IS BASED UPON CONTRACT RIGHTS, NEGLIGENCE, OR OTHERWISE, AND IN NO EVENT SHALL B/E AEROSPACE BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES. FURTHER, B/E AEROSPACE MUST BE NOTIFIED OF A REJECTION OF AN ITEM WITHIN 30 DAYS AFTER RECEIPT BY THE CUSTOMER.

## PACKING SLIP

BY RECEIVING DELIVERY OF THE ITEMS COVERED BY THIS PACKING SLIP, BUYER AGREES TO THE TERMS AND CONDITIONS OF SALE AT:  
[http://www.beconsumables.com/cm/conditions\\_of\\_sale.cfm](http://www.beconsumables.com/cm/conditions_of_sale.cfm)

Vice President of Quality



# B/E Aerospace, Inc.

## CONSUMABLES MANAGEMENT

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Remit to Address: 88289 Expedite Way, Chicago, IL 60695-0001  
Wire Instructions: B/E Aerospace Consumables Management • JPMorgan Chase Bank New York  
ABA: 021000021 • Account: 304639273 • SWIFT: CHASUS33 • CHIP UID: 0002

INVOICE NUMBER

HWMJYT

PAGE 2




SOLD TO:

002409  
DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7



SHIP TO:

DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7

ORDER NO.		DATE	SHIP VIA	TERMS	SHIPPING TERMS			
PO26028		10/07/14	FEDX INTL P1 COLL	NET 45	FOB-MIAMI			
ITEM NO.	QUANTITY ORDERED	PART NUMBER AND DESCRIPTION		PRICE	UNIT	BACK ORDER	SHIPPED	AMOUNT
		*** SHIPPED 1 CTN *** # 1=CTN 6# 0 OZ. 616010498007 FREIGHT ACCT# 15179324-0 TEL# 613-632-3336  DIMENSIONS: 9X9X8						
INVOICE#.....		HWMJYT						
ORDER#.....		99KZ04						
CONSOLIDATE#..		1B15ZY						
							SUBTOTAL :	16.00
							HANDLING :	0.00
							DISC/ALL :	0.00
							INCM FRT :	0.00
							FREIGHT :	0.00
							TOTAL :	16.00USD
							U.S. CURRENCY	
rxg	99KZ04	SHIPPED ON 10/07/14						
MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE								

MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE

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SHIPPED FROM: 10000 NW 15 TERRACE, MIAMI, FL 33172

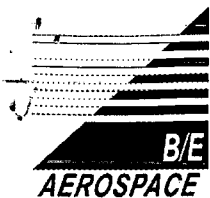
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Vice President of Quality

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INVOICE NUMBER

HWMJYS

PAGE 1

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002409  
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CANADA K6A 1K7

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1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7

ORDER NO.		DATE	SHIP VIA	TERMS		SHIPPING TERMS	
PO26028		10/07/14	FEDX INTL P1 COLL	NET 45		FOB-MIAMI	
ITEM NO.	QUANTITY ORDERED	PART NUMBER AND DESCRIPTION	PRICE	UNIT	BACK ORDER	SHIPPED	AMOUNT
3	200	AN3-12A Description BOLT ECCN :9A991 MFR: MAC FASTENERS CTRL#: 2014B20395 LOT#: 68990 LOT QTY: 200 Country of Origin USA	0.150	EA	0	200	30.00
4	200	MS27039C0819 Description SCREW ECCN :9A991 MFR: AEROTECH FAST. CTRL#: 2008C00111 LOT#: A-2711 LOT QTY: 200 Country of Origin USA	2.070	EA	0	200	414.00
5	50	MS27039C1-07 Description SCREW ECCN :9A991 MFR: MAC FASTENERS CTRL#: 2014I00189 LOT#: 66253 LOT QTY: 50 Country of Origin USA	0.750	EA	0	50	37.50
<i>These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law is prohibited.</i>							
***CONTINUED***							
MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE							

MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE

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SHIPPED FROM: 10000 NW 15 TERRACE, MIAMI, FL 33172

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[http://www.beconsumables.com/cm/conditions\\_of\\_sale.cfm](http://www.beconsumables.com/cm/conditions_of_sale.cfm)

Vice President of Quality





# B/E Aerospace, Inc.

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Wire Instructions: B/E Aerospace Consumables Management • JPMorgan Chase Bank New York

ABA: 021000021 • Account: 304639273 • SWIFT: CHASUS33 • CHIP UID: 0002



CONSOLIDATION

1B15ZY

PAGE 1

SEND TO ACCOUNTING

SOLD TO:

002409

DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7

SHIP TO:

DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY, ON  
CANADA K6A 1K7



ORDER NO. See Below		DATE 10/07/2014	SHIP VIA FEDX INTL P1 COLL		TERMS NET 45		SHIPPING TERMS FOB-MIAMI	
ITEM NO.	QUANTITY ORDERED	PART NUMBER AND DESCRIPTION		PRICE	UNIT	BACK ORDER	SHIPPED	AMOUNT
1 2   rxg		<u>INVOICE#</u> <u>CUST P/O</u>						
		FED. TAX# 06-120-9796						
		HWMJYS	PO26028					
		HWMJYT	PO26028					
		***CONSOLIDATION SUMMARY PAGE ONLY						
SHIPPED ON 10/07/2014								
MATERIAL TO BE RETURNED MUST HAVE PRIOR AUTHORIZATION BY B/E AEROSPACE								

ALL ITEMS ARE SUBJECT TO A 100% RESTOCKING CHARGE.

### PACKING SLIP

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[http://www.beconsumables.com/cm/conditions\\_of\\_sale.cfm](http://www.beconsumables.com/cm/conditions_of_sale.cfm)



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO26028**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
4	200	EA	MS27039C0819		A-2711	AEROTECH FAST.	0TD46		

  
Jason Lewis  
Vice President of Quality

10/07/14



ONE RIDGE ROAD, PUTNAM, CT 06260

Phone: + 860-928-6300

Fax: + 860-928-6340

CAGE CODE# OTD46

sales@aerotechfasteners.com

## MANUFACTURERS CERTIFICATE OF COMPLIANCE

Date: February 22, 2008

Customer: M & M AEROSPACE HARDWARE, INC. Order Number: OEN110

Part Number: MS27039C0819

Lot Number: A-2711

Shipment Number: -5

Rev: 98-NASM27039  
CAPABLE OF REV 1-NASM27039

Quantity Shipped: 3,000 UNIT: EA

DOM: 11/20/98

Procurement Specification: NASM7839

MFG: AEROTECH FASTENERS - Manufactured in the U.S.A.

### Mechanical Test

Test Type: TENSILE

Per: MIL-STD-1312, test method: 8

Unit of Measure: LBS

How many samples tested: 5

Due to Fastener length, Test performed on wire samples: NO

### TEST RESULTS

Minimum Requirement: 1750

Minimum: 2668

Maximum: 2688

Average: 2677

### ADDITIONAL TESTS/COMMENTS

THREADS: 0.164-32, UNC-3A

Fed-Std-H28/20, System 21 X 22   

FINISH: Passivate, QQ-P-35:

TY.6    TY.8 X

### ADDITIONAL DOCUMENTATION ATTACHED

RAW MATERIAL CERTIFICATION:

A286

Heat Number: SE908

Composition:

AMS5732

Company: TECHALLOY

HEAT TREAT CERTIFICATION

X

per: AMS2759, REF: MIL-H-6875

OTHER CERTIFICATIONS SUPPLIED

X

Country of Origin, FRANCE

Raw Material is DFAR 252.225-7014 Alt1 (.872-1 compliant)

Aerotech Fasteners Inc. hereby certifies that the parts contained in this shipment are in conformance with all applicable drawings and specifications. Evidence in the form of suppliers' certificate and/or chemical and physical test reports are on file and available for review at the customers' request.

Sandra Britton

Office Manager, Aerotech Fasteners

NORCROSS, GA  
NORCROSS, GA (WELDING)  
UNION, IL  
UNION, IL (WELDING)

770-923-3353 FAX 770-923-3709  
770-923-8447 FAX 770-923-8117  
815-923-2131 FAX 815-923-2126  
815-923-2131 FAX 815-923-7242



BALTIMORE, MD 410-633-9300 FAX 410-633-2033  
NORTHAMPTON, MA 413-584-3864 FAX 413-584-5288  
HOUSTON, TX 713-486-1000 FAX 713-486-7425  
PERRIS, CA 909-657-2105 FAX 909-943-6061

PERRIS SERVICE CENTER  
2500 "A" STREET  
TEL: 909-657-2105

PERRIS, CA 92570-9361  
FAX: 201-529-1074

## CERTIFICATE OF CONFORMANCE

SOLD TO  
AEROTECH FASTENERS  
P. O. BOX 713  
DANIELSON, CT 06239

SHIP TO  
AEROTECH FASTENERS INC  
50 TIFFANY STREET  
BROOKLYN, CT 06234

CUSTOMER'S PO NO.	TYPE OF CERT	CUSTOMER	TECHALLOY ORDER NO.	WORK ORDER	DATE SHIPPED
2954	Customer	100908	808099409 02	0000058795	9/30/98

SPECIFICATIONS: 15/17%CR, AMS 5731J, CAP OF AMS 5732G, AMS 5734H, AMS 5737M

DESCRIPTION	SPEC. CLASS	HEAT
.1605 DIA. A286 STAINLESS STEEL X COIL, COPPER COATED, CHQ, HIQ 15/17% C.R.		SE908
	QTY SHIP 1101.000	

C	MN	SI	S	P	CR	NI
.040	1.610	.130	< .001	.013	14.390	24.540
CU	B	FE	AL	TI	CO	MO
.140	.008	Balance	.160	2.200	.120	1.250
V	BI	PB				
.310	< .00002	< .0001				

MECHANICAL PROPERTIES							
AS SHIPPED PROPERTIES:							
TENSILE 104.500 KSI	GRAIN SIZE 6.000 ASTM						
AFTER HEAT TREAT PROPERTIES:							
TENSILE 167.000 KSI	YIELD 140.000 KSI	ELONGATION 18.000 %	R/A 50.000 %	S/RUPTURE 1200.000 DEG F	TIME 137.000 HRS	ELONGATION 26.000 %	LOAD 70.000 KSI

WE HEREBY CERTIFY THAT THE SAMPLES REPRESENTATIVE OF THIS MATERIAL MEET THE REQUIREMENTS OF THE SPECIFICATION(S) IN WHICH IT WAS PURCHASED

MILL SOURCE, IMPHY, FRANCE

KEN GOLD, QUALITY CONTROL MANAGER

The material as shipped is free from mercury contamination.  
The mechanical properties and chemical analysis are correct as contained in our records.

Very truly yours,  
TECHALLOY

AUTHORIZED SIGNATURE

*accept  
OK  
10/2/98*

OCT-15-1998 15:36

TECHALLOY CO., INC.

815 923 2126 P.04/07


**CERTIFICAT DE CONTROLE EN USINE n° 0031212/2**  
 MHI certificate - Abnahmeprüfzeugnis ISO 9002

Usine - Works - Werk

50100 IMPHY FRANCE

Téléphone: 03 80 21 30 00 Téléc. 03 80 40 00  
Télécopie: 03 80 21 30 00 Tél. 03 80 40 00
 Client: **TECHAL UNION/IL**  
 Désignation: **MAC 9482/TCI/8296-2**  
 Date de livraison: **03.11.98**  
 Code de l'usine: **D.3.PRS.010.5/REV.C**
N° de contrôle: **122602/01**N° de contrôle: **FACTORY Q.C RELEASE**
 Désignation: **SUPERIMPHY 208 WIRE ROD**  
 Diamètre: **DIAM/6,00/MM**  
 Longueur: **A - 208 (.236")**

 Désignation: **SHAVED**  
 N° de contrôle: **4000873166**
COMPOSITION CHIMIQUE  
ANALYSE CHIMIQUE  
ANALYSE CHIMIQUEC. 0.001  
P. 0.001  
S. 0.001N° de contrôle: **PT629/SE908**

.04	1.81	.13	< .001	.013	24.54	14.39	1.25	.14	.12
.31	.15	2.20	< .0001	< .00002	.008	bal.			

**CARACTERISTIQUES MECANQUES ET AUTRES ESSAIS / TESTS RESULTS****ETAT DE LIVRAISON**

CONDITIONS OF DELIVERY

 RESISTANCE..... TENSILE STRENGTH..... : **581 MPA**  
 GRAIN ASTM..... GRAIN ASTM..... : **6 ASTM**
**HYPERTREMPE 880°1H EAU-VIEILLISSEMENT 720°16H AIR**

HEAT TREATMENT OF SPECIMEN: 880°1H WATER-AGED 720°16H AIR

 LIMITE ELASTIQUE..... YIELD STRENGTH A.1..... : **772 MPA**  
 RESISTANCE..... TENSILE STRENGTH..... : **1087 MPA**  
 ALLONGEMENT..... ELONGATION 200..... : **29.9 %**  
 STRICTION..... RED. OF AREA..... : **51.4 %**  
 DURETE HB..... HARDNESS..... : **306 HB**
**FLUAGE**

SPECIMEN HEAT TREAT AT 1200° (1000°C)

SPECIMEN HEAT TREAT AT 1200° (1000°C)

 DUREE DE VIE..... TIME..... : **136.7 H**  
 ALLONGEMENT..... ELONGATION..... : **25.5 %**


QUALITY CONTROL

MERLIN CHR.

10.14.98

Signature  
J. MERLIN  
10/14/98

Voir page suivante  
DE 15/15

FICHE CIEL IMPHY

PAGE N° 1  
Date de validité : 30 jours

OCT-15-1998 15:36

TECHALLOY CO. INC.

915 923 2126 P.05/07



# CERTIFICAT DE CONTROLE EN USINE n° C031212/2

Mil certificate - Abrahmspröbzeugnis ISO 9002

Client  
Date  
Désignation

TECHAL UNION/IL

Matériau  
Forme  
Dimensions

MAC 9492/TCI/8296-2

03.11.98

Spécifications  
Norme  
Version

D.S.PRS.010.S/REV.C

Numéro  
Date  
Désignation

122602/01

Contrôle  
Testeur  
Abandon

FACTORY Q.C RELEASE

ETAT HYPERTREMPE 900° • VIEILLISSEMENT 720°16H AIR  
HEAT TREATMENT OF TEST SPECIMEN 900°F IN WATER-QUENCHED AIR

LIMITE ELASTIQUE.....	YIELD STRENGTH 0.2%.....	783 MPA
RESISTANCE.....	TENSILE STRENGTH.....	1086 MPA
ALLONGEMENT.....	ELONGATION 4D.....	28.8 %
STRICTION.....	RED. OF AREA.....	50.3 %
DURETE HB.....	HARDNESS.....	306 HB

## FLUAGE

STRESS RUPTURE TEST AS LUMPY (600°C)

MINER 65.000 PSI(4480MPa)

DUREE DE VIE..... TIME..... 202.4 H

ALLONGEMENT..... ELONGATION..... 25.5 %

"MATERIAL IS FREE FROM MERCURY, RADIUM,  
OR ALPHA PARTICLE CONTAMINATION

"THE WILLFUL RECORDING OF FALSE OR FRAUDULENT  
STATEMENTS ON THIS DOCUMENT MAY RESULT IN  
PUNISHMENT AS A FELONY UNDER FEDERAL STATUTES"



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO26028**

LNE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
3	200	EA	AN3-12A		68990	MAC FASTENERS	0RFT4		

  
Jason Lewis  
Vice President of Quality

10/07/14

**MAC FASTENERS, INC.**  
**1110 ENTERPRISE**  
**OTTAWA, KANSAS 66067**

**CERTIFICATE OF CONFORMANCE  
AND  
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0RSS63

PART NUMBER: AN3-12A

REV: 2

LOT NUMBER: 68990

MANUFACTURED QUANTITY: 120,000

MILL HEAT NUMBER: 8172051

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

**MERCURY FREE CERTIFICATION**

MacFasteners Inc. certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS, INC. within the United States, and were processed in accordance with all applicable drawings and specifications.

Objective evidence of compliance is on file, subject to examination upon request.

DATE: 02/03/14

  
QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company- SAI GLOBAL - 0058029

**MAC FASTENERS, INC.**  
**1110 EAST ENTERPRISE**  
**OTTAWA, KS 66067**

## CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUMBER 0RSS63	MFG QUANTITY 120,000	DATE 02/03/14
PART NUMBER AN3-12A	REV 2	LOT NO 68990	PROCUREMENT SPEC NASM6812

MATERIAL TYPE 8740				MATERIAL SPECIFICATION MIL-S-6049/AMS6322				MILL HEAT NUMBER 8172051			SUPPLIER JOHNSTOWN		
C .40	Si .25	Mn .86	P .010	S .011	Cu .09	Ni .44	Cr .49	Mo .22	V .003	B	Fe	Al .026	Ti
	Co	N .0043	Bi	Pb	Mg	Zn		Nb	Sn .006			Other	

### MECHANICAL TEST RESULTS - TESTING PER NASM1312

ULTIMATE TENSILE STRENGTH POUNDS
3,260
3,230
3,300
3,290
3,310
MIN. REQ. 2,210

DOUBLE SHEAR STRENGTH POUNDS / PSI
4,880
4,760
4,790
4,830
4,840
MIN. REQ. 4,250

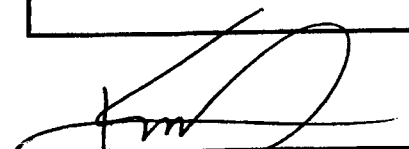
HARDNESS
ROCKWELL "C" SCALE
REQ. 26 - 32 HRC
SAMPLE SIZE 5
ACTUAL RESULTS 27 - 32 HRC

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input checked="" type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3	System 21 <input type="checkbox"/>	System 22 <input checked="" type="checkbox"/>	System 23 <input type="checkbox"/>

NDT/ ADDITIONAL TESTS
Magnetic Particle Inspection per ASTM E1444 <input type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417 <input type="checkbox"/>
Recess Torque Test <input type="checkbox"/>
Head Marking <input checked="" type="checkbox"/>
Magnetic Permeability ASTM A342 less than 2.0 <input type="checkbox"/>

### TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE RE-PRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.

  
Quality Assurance Representative

**AS9100C REGISTERED**  
**SAI GLOBAL - 0058029**

MAC FASTENERS, INC.  
1110 ENTERPRISE  
OTTAWA, KANSAS 66067

## HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 02/03/14

PO NUMBER: 0RSS63

MANUFACTURED QUANTITY: 120,000

PROCESSOR:

PAULO PRODUCTS KCMO - NADCAP ID 4679

LOT NUMBER: 68990

MATERIAL: TYPE 8740

PART NUMBER: AN3-12A

REVISION: 2

REQUIRED HARDNESS: 26 - 32 HRC

SAMPLE SIZE: 5

HARDNESS: 27 - 32 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

Notes:

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.



QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company - SAI GLOBAL - 0058029

# **DE TRAY**

## **Plating Works**

**Specialized Electro-Plating and Polishing**  
**Nickel**  
**Copper**  
**Decorative Chrome**  
**Satin Chrome**  
**Zinc**  
**Cadmium**  
**Passivate**  
**Bright Dip**  
**Strip Copper**  
**Descale**

**10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052**  
**Phone (816) 252-8411 Fax (816) 252-8527 • E-mail: DeTrayPlating@Aol.com**

January 30, 2014

Mac Fasteners  
1110 East Enterprise Street  
Ottawa, Kansas 66067

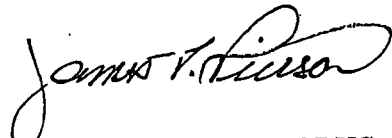
Subject: Certification

This is to certify that the following parts have been cadmium plated per QQ-P416/AMS-QQ-P-416/NAS4160/AMS2400, Type II, Class 2. Please reference our Invoice# 176448 dated 1/30/2014 for:

Lot#- 68990

P.N.- AN3-12A

James T. Pierson, Vice-President



DE TRAY PLATING WORKS



# Johnstown Wire Technologies

124 Laurel Ave,  
Johnstown, PA 15906

Phone: 814-532-5680  
Fax: 814-532-5684

WORK ORDER  
883637

## TEST REPORT

LOT NUMBER  
K-8172051

SALES ORDER / RLS  
002641 / 1

SOLD TO

Mac Fasteners, Inc.  
C/O TD Logistics Inc.  
14505 W 100th Street  
Lenexa, KS 66215  
USA



CUSTOMER P.O. 50516	CUSTOMER PART	QUANTITY 27,381 LBS	COILS 14	LADING NO 00120503	SHIPMENT DATE 10/22/2013							
<b>SPECIFICATION MacFast-87186</b> <b>AMS2301; AMS6322; AMS-S-6049A; MIL-S-6049A 8740 DFARS Defense Federal Acquisition Regulation</b> <b>Supplement Silicon Killed Fine Grain Aircraft Quality/Cold Heading Quality Drawn From Annealed Rod</b> <b>Spheroidize Annealed In Process Heavy Phos &amp; Light Lube Ctd</b> <b>Size: .1865 +.001 -.000</b>												
CERTIFICATION REQUIREMENTS												
<b>Chemical</b>												
C	Mn	P	S	Si	Al	Ni	Cr	Mo	Cu	V		
.40	.86	.010	.011	.25	.026	.44	.49	.22	.09	.003		
Cb	Ti	N	Sn									
.001	????????	.0043	.006									
<b>Physical</b>												
AMS 2301	J1	J10	J11	J12	J2	J3	J5	J4	J6	J7	J8	J9
0000	58	42	39	38	57	56	55	56	54	51	48	45
MacroClean E-381 111												
<b>Mechanical</b>												
<b>TEST</b>	<b>UNITS</b>		<b>HIGH</b>		<b>LOW</b>		<b>AVERAGE</b>					
Tensile Str	Lbs/SqIn		83000		80000		81000					
RA Per Cent	Percent		73.1		71.9		72.5					
Decarb FFD	Inches		.000		.000		.000					
Surface def. depth	Inches		.000		.000		.000					
<b>Rod / Melt Source</b>												
Rod Source	Melt Source	Country of Origin		Nafta								
Republic	Republic	USA		Yes								
End of Certification												

I certify that the results are a true and correct copy of the records prepared and maintained by JOHNSTOWN WIRE TECHNOLOGIES in compliance with the requirements of the cited specification. Chemistry is as reported by the rod / bar supplier and is not in JWT A2LA accreditation. This test report cannot be reproduced or distributed except in full without the written permission of JOHNSTOWN WIRE TECHNOLOGIES. The test results certified herein relate only to the items tested.

*Daniel J. Malik*  
Daniel J. Malik Director of Quality Assurance



## CERTIFICATE OF TESTS

 1807 EAST 28TH ST.  
 PHONE: 330-488-5580

 LORAIN, OH 44055  
 FAX: 330-488-5495

REPUBLIC STEEL

 6/25/2013  
 11:08:00 AM  
 PAGE 1 OF 2

 PURCHASE ORD: 84084  
 PART NUMBER: FKT40AA-.375  
 ORDER NUMBER: 1547434 - 01  
 HEAT: 8172051

 PURCHASE ORDER DATE: 3/4/2013  
 ACCOUNT NUMBER: 5672-1921-01  
 SCHEDULE: 6101-93  
 REVISION: 1

## CHARGE ADDRESS

 JOHNSTOWN WIRE TECHNOLOGIES  
 124 LAUREL AVE  
 JOHNSTOWN, PA 15906

## SHIP TO

 JOHNSTOWN WIRE TECHNOLOGIES  
 EDWARD ZAPOLA  
 C/O C & BL RAILROAD  
 TRACK 629  
 JOHNSTOWN, PA 15901

## MATERIAL DESCRIPTION

 HOT ROLLED STEEL COILS ALLOY AMS 2301K JOHNSTOWN WIRE SPEC RW-100 REVISION DTD 04/21/04 EXC PARA  
 10.3 AMS 6322N EXC HARD JOHNSTOWN WIRE SPEC RW-005 REVISION DTD 12/31/00 EXC SURFACE DEFECTS  
 JOHNSTOWN WIRE SPEC PART NO. FKT40AA REVISION DTD 12/31/00 MIL S 6049A & AMD 1 COND B-1 EXC MARK &  
 UT WAIVED EF-AISI-8740-H FINE GRAIN VACUUM DEGAUSED AIRCRAFT QUALITY FIXED PRACTICE QUALITY  
 RESTRICTED CHEMISTRY RESTRICTED MAX INCIDENTAL ELEMENTS  
 SIZE: RDS .3750 DIAM X COIL  
 RDS 9.5250MM DIAM X COIL

## LADLE CHEMISTRY %

C	MN	P	S	SI	CU	NI	CR
0.40	0.86	0.010	0.011	0.25	0.09	0.44	0.49
V	MO	SN	AL	B	CB	N	
0.003	0.22	0.006	0.026	0.0001	0.001	0.0043	

## CALCULATED TESTS

REDUCTION RATIO 1,177.6 TO 1

 AUSTENITIC GRAIN SIZE 5 OR FINER BASED ON A TOTAL ALUMINUM CONTENT EQUAL TO OR GREATER THAN .020% PER ASTM  
 A29.

## SEMI - FINISHED RESULTS

 JOMINY HARDNESS TEST SAE J406/ASTM A255  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 18 20 22 24 26 28 30 32  
 58 57 56 56 55 54 51 48 45 42 39 38 36 34 34 33 32 31 30 29 29 29 28 28

 MACRO ETCH TEST ASTM E381/MIL STD 430  
 ETCHANT: HCl. TEMPERATURE: 170

	S	R	C
AVG	1	1	1

 MAGNETIC PARTICLE TEST AMS 2301 AMS2304 AMS2300  

	IND	AVG	IND	AVG
PCE 03	0	0	0	0

## FINISHED SIZE RESULTS

 DECARBURIZATION TEST SAE J419/ASTM E1077/JIS G0558  
 ETCHANT = NITAL MAGNIFICATION = 100X

	SPIKE	COMPLETE	TOTAL
	INCHES	INCHES	DEPTH
			INCHES
PCE 6579	0.002	0	0.001

 G. KRUTH  
 DIRECTOR QUALITY ASSURANCE

BY DEBORAH STOKES



## CERTIFICATE OF TESTS

1807 EAST 28TH ST.  
MOMENT 330-438-5580LORAIN, OH 44053  
FAX: 330-438-5495

REPUBLIC STEEL

6/25/2013  
11:08:00 AM  
PAGE 2 OF 2PURCHASE ORD: 84084  
PART NUMBER: FXT40AA-.375  
ORDER NUMBER: 1547434 - 01  
HEAT: 81/2051PURCHASE ORDER DATE: 3/4/2013  
ACCOUNT NUMBER: 5672-1921-01  
SCHEDULE: 6101-93  
REVISION: 1

CAPABLE OF SEAM DEPTH 1% MAX DIAMETER NOT LESS THAN .005 MAX

## NOTES

CHEMICAL ANALYSIS CONFORMS TO APPLICABLE SPECS: ASTM E415, LBL10129, LBL10130, ASTM E1019, LBL10158, LBL10114, AND ASTM E1085, LBL10184, LBL10188.

REPUBLIC STEEL HEREBY CERTIFIES THAT THE MATERIAL LISTED HEREIN HAS BEEN INSPECTED AND TESTED IN

## NOTES (CONTINUED)

ACCORDANCE WITH THE METHODS PRESCRIBED IN THE GOVERNING SPECIFICATIONS AND BASED UPON THE RESULTS OF SUCH INSPECTION AND TESTING HAS BEEN APPROVED FOR CONFORMANCE TO THE SPECIFICATIONS.

CERTIFICATE OF TESTS SHALL NOT BE REPRODUCED EXCEPT IN FULL.

ALL TESTING HAS BEEN PERFORMED USING THE CURRENT REVISION OF THE TESTING SPECIFICATIONS.

RECORDING OF FALSE, FICTITIOUS OR FRAUDULENT STATEMENTS OR ENTRIES ON THIS DOCUMENT MAY BE PUNISHED AS A FELONY UNDER FED STATUTES TITLE 18 CHAPTER 47.

THE MATERIAL WAS NOT EXPOSED TO MERCURY OR ANY METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURE DURING PROCESSING OR WHILE IN OUR POSSESSION.

NO WELD OR WELD REPAIR WAS PERFORMED ON THIS MATERIAL.

THE RESULTS REPORTED RELATE ONLY TO THE ITEMS TESTED.

## SOURCE INFORMATION

MELT SOURCE: CANTON CAST ROLL MELT COUNTRY: U.S.A HOT ROLL SOURCE: LORAIN 9/10, U.S.A  
MELT METHOD: EF BLOOM RED. RATIO: 1177.6

END OF DATA

CC

END OF DATA

WITH SHIPMENT 1 COPY PRINTED AT SHIPPING AREA  
FAX SHIP TO 1 COPY ATTENTION EDWARD ZAPOLA  
FILE 1 COPY

1-814-532-5684

G. KRUTH  
DIRECTOR QUALITY ASSURANCE

BY DEBORAH STOKES



# B/E Aerospace, Inc.

Page: 1 of 1

## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


### Material Certification

The items set forth in the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO26028**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
5	50	EA	MS27039C1-07		66253	MAC FASTENERS	ORFT4		

  
Jason Lewis  
Vice President of Quality

10/07/14

**MAC FASTENERS, INC.**  
**1110 ENTERPRISE**  
**OTTAWA, KANSAS 66067**

**CERTIFICATE OF CONFORMANCE  
AND  
MANUFACTURER'S AFFIDAVIT**

CUSTOMER: B/E AEROSPACE

PO: 0LTX71

PART NUMBER: MS27039C1-07

REV: 4

LOT NUMBER: 66253

MANUFACTURED QUANTITY: 104,000

MILL HEAT NUMBER: QQ358/16

COUNTRY OF ORIGIN: UNITED STATES OF AMERICA

DFARS 252.225.7009 Compliant

**MERCURY FREE CERTIFICATION**

MacFasteners certifies that the parts referenced in the above lot number do not contain Mercury or Mercury compounds, and were manufactured in a Mercury free environment.

We certify that the parts furnished against the above referenced purchase order were manufactured by MAC FASTENERS within the United States, and were processed in accordance with all applicable drawings and specifications. Objective evidence of compliance is on file, subject to examination upon request.

Mac Fasteners is an AS9100C Registered Company- SAI GLOBAL - 0058029

Mac Fasteners is a DISC QSLM approved Manufacturer - CAGE Code 0RFT4

Mac Fasteners is an Airbus approved Supplier - 203399

DATE: 08/21/14

  
QUALITY ASSURANCE REPRESENTATIVE

MAC FASTENERS, INC.  
1110 EAST ENTERPRISE  
OTTAWA, KS 66067

## CHEMICAL & PHYSICAL TEST REPORT

CUSTOMER B/E AEROSPACE	PO NUMBER OLTX71	MFG QUANTITY 104,000	DATE 08/21/14
PART NUMBER MS27039C1-07	REV 4	LOT NO 66253	PROCUREMENT SPEC NASM7839

MATERIAL TYPE A286				MATERIAL SPECIFICATION AMS5731/AMS5737				MILL HEAT NUMBER QQ358/16			SUPPLIER KOS WIRE		
C .037	Si .088	Mn 1.71	P .013	S .001	Cu .087	Ni 24.56	Cr 14.8	Mo 1.25	V .293	B .006	Fe	Al .185	Ti 2.18
	Co .205	N	Bi	Pb	Mg	Zn		Nb	Sn			Other	

### MECHANICAL TEST RESULTS - TESTING PER NASM1312

ULTIMATE TENSILE STRENGTH POUNDS	
3,610	3,570
3,330	3,610
3,480	3,520
3,470	3,360
3,390	3,460
3,590	
3,600	
3,520	
MIN. REQ.	2,500

DOUBLE SHEAR STRENGTH POUNDS / PSI
TOO SHORT TO TEST PER NASM1312-13
MIN. REQ.

HARDNESS	
ROCKWELL "C" SCALE	
REQ.	24 - 37 HRC
SAMPLE SIZE	13
ACTUAL RESULTS	
34 - 37 HRC	

METALLURGICAL EXAMINATION			
Discontinuities	<input checked="" type="checkbox"/>	Carb/Decarb	<input type="checkbox"/>
Grain Flow	<input checked="" type="checkbox"/>	Microstructure	<input checked="" type="checkbox"/>
Grain Size	<input checked="" type="checkbox"/>	Appearance	<input checked="" type="checkbox"/>
Thread Inspection FED-STD-H28/20 - ASME B1.3	System <input type="checkbox"/> 21	System <input checked="" type="checkbox"/> 22	System <input type="checkbox"/> 23

NDT/ ADDITIONAL TESTS	
Magnetic Particle Inspection per ASTM E1444	<input type="checkbox"/>
Liquid Penetrant Inspection per ASTM E1417	<input type="checkbox"/>
Head Marking	<input checked="" type="checkbox"/>
Fatigue Strength	<input type="checkbox"/>
Stress Durability Test NASM1312/5	<input type="checkbox"/>
Stress Rupture Test	<input type="checkbox"/>
Magnetic Permeability ASTM A342 Less than 2.0	<input checked="" type="checkbox"/>

### TEST CERTIFICATION

WE CERTIFY THAT THE PART NUMBER, LOT NUMBER, AND SAMPLES REFERENCED ABOVE HAVE BEEN TESTED IN ACCORDANCE WITH THE APPLICABLE SPECIFICATION FOR THE TESTS REPORTED HEREIN. THIS CERTIFICATION SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE APPROVAL OF MAC FASTENERS, INC.

  
Quality Assurance Representative

MAC FASTENERS, INC.  
1110 ENTERPRISE  
OTTAWA, KANSAS 66067

## HEAT TREAT CERTIFICATION

CUSTOMER: B/E AEROSPACE

DATE: 08/21/14

PO NUMBER: 0LTX71

MANUFACTURED QUANTITY: 104,000

PROCESSOR:

PAULO PRODUCTS KCMO - NADCAP ID 4679

LOT NUMBER: 66253

MATERIAL: TYPE A286

PART NUMBER: MS27039C1-07

REVISION: 4

REQUIRED HARDNESS: 24 - 37 HRC

SAMPLE SIZE: 13

HARDNESS: 34 - 37 HRC

HEAT TREAT SPECIFICATION AS APPLICABLE: MIL-H-6875/AMS-H-6875/AMS2759/AMS5853/PS-1001

Notes:

The fasteners referenced in this report have been processed, inspected and certified by the Heat Treat Contractor in accordance with all applicable drawings and specifications. Heat Treatment has been verified in accordance with procurement specification and part drawing, by metallurgical and mechanical testing as applicable. Evidence of compliance as well as certification from the Heat Treat Contractor is on file and subject to examination upon request.



QUALITY ASSURANCE REPRESENTATIVE

MacFasteners, Inc. is an AS9100C Registered Company - SAI GLOBAL - 0058029

# DE TRAY Plating Works

Specialized Electro-Plating and Polishing  
Nickel  
Copper  
Decorative Chrome  
Satin Chrome  
Zinc  
Cadmium  
Passivate  
Bright Dip  
Strip Copper  
Descale

10405 EAST ELEVENTH STREET • INDEPENDENCE, MISSOURI 64052  
Phone (816) 252-8411 Fax (816) 252-8527 • E-mail : DeTrayPlating@Aol.com

Passivate Treatment per AMS2700 Method I, Class 4

CUSTOMER: Mac Fasteners Lot#: 66253  
PART NUMBER: MS27039C1-07  
PROCUREMENT SPECIFICATION: n/a  
OTHER CONTRACTURAL REQUIREMENTS:  
MATERIAL: A286  
QUANTITY: 570 lbs  
INVOICE NUMBER: 182431

## Certification Statement:

We certify that the above referenced lot was processed, tested, and inspected in accordance with AMS2700 Method I, Class 4 and part standard.

DE TRAY PLATING WORKS

NAME: 

JOB TITLE: VICE-PRESIDENT

DATE: 8/19/2014



# KOS LIMITED

(YUSAN-DONG) 43, EOSIL-RO, YANGSAN-SI, GYEONGSANGNAM-DO, KOREA

TEL : (055) 389-1050 FAX : (055) 385-9189

E-mail : kosyrd@koswire.com

## Inspection Certificate

DATE OF ISSUE: 2014-01-30

DESCRIPTION	STAINLESS STEEL WIRE FOR COLD HEADING ( WSB )		
MILL CERT.NO.	AB1-201401A-0678	GRADE	A286VAR
P.O NO.	86912	DIAMETER	0.1690 inch
INVOICE NO.	B136060/03 ( B136062-33 )	FINISH	DU X-CO (COIL)
CONTRACTOR	KOS AMERICA, INC.	QUANTITY	606.3 LBS ( 3 COILS )
CUSTOMER	MACFASTENERS, INC	APP. SPEC	BUYER'S SPEC

## CHEMICAL COMPOSITION

(wt%)

COMPONENT	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	Al
CH. NO.	Min	0.0100	0.0000	0.0000	0.0000	24.0000	13.5000	1.0000	0.0000	0.1000	0.0000
	Max	0.0800	1.0000	2.0000	0.0250	0.0250	16.0000	1.5000	0.5000	0.5000	0.3500
QQ358/16		0.0370	0.0880	1.7100	0.0130	0.0010	24.5600	14.8000	1.2500	0.0870	0.1850

## INSPECTION RESULTS

ITEMS COIL NO.	SIZE	T/S	R/A				LOT NO.	REMARK
	( inch )	( ksi )	( % )	( )	( )	( )		
	+0.00100	120.0						
	+0.00000	90.0						
1	0.1696	110.9	67.3				1T0101-40114-0059	QQ358/16
2	0.1696	110.9	67.6				1T0101-40114-0060	
3	0.1696	111.0	67.7				1T0101-40114-0061	
REMARKS			We hereby certify that the material described herein has been made in accordance with the specification of the order.				W.S.BAEK	
D/A CONT. NO : KSS0433/14 A286 .1690								
							MANAGER OF Q.C Dept.	

END

# APPENDIX

## SPECIFICATION

Customer' Spec. Code	BUYER'S SPEC
References	AMS 5731L, AMS 5732J, AMS 5734K, AMS 5737P, AMS5853C

## CHEMICAL COMPOSITION

QQ358/16	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	V	Al
	0.0370	0.0880	1.7100	0.0130	0.0010	24.5600	14.8000	1.2500	0.0870	0.2930	0.1850
	Co	Ti	B								
	0.2050	2.1800	0.0060								

## RAW MATERIAL INFORMATION

Supplier	APERAM ALLOYS IMPHY
Country of origin	FRANCE
Melt Method	AOD / VAR.
Surface	Seam Free
DFARS	Compliance with DFARS 252.225-7014 ALT.
Others	Free from Mercury, Radium or Alpha Source contamination.
Heat No.	QQ358/16

## MECHANICAL PROPERTIES AFTER HEAT TREATMENT

H.T. Condition : 1800°F 1hr WQ + 1325°F 16hr AC					Stress Rupture		
TENSILE, KSI	YIELD, KSI	E/L, %	R/A, %	HB	1200°F 70 KSI	Time, hr	E/L, %
159.8	100.7	27.0	52.0	311.0		17.0	141.3
H.T. Condition : 1650°F 1hr WQ + 1325°F 16hr AC					Stress Rupture		
TENSILE, KSI	YIELD, KSI	E/L, %	R/A, %	HB	1200°F 65 KSI	Time, hr	E/L, %
163.7	114.2	28.0	51.0	332.0		204.1	25.0
Grain Size : ASTM No. 6.5		We hereby certify that the material described herein has been made in accordance with the specification of the order.				W.S.BAEK	
						MANAGER OF Q.C Dept	

END

**operam**

**MILL'S CERTIFICATE**

n° C070213/1

Usine - Works - Werk  
Alloys Imphy  
58160 IMPHY FRANCE  
Téléphone: 03 86 21 30 00  
Télécopie: 03 86 21 31 00

Client  
Customer  
Kunde : KOS LIMITED  
  
V/Coupage  
Our order  
Ihre Bestell. Nr. : EMAIL DATED JUNE 21TH  
  
Specification  
Specification  
Vorschrift : AMS CHEMISTRY

du  
of : 21/06/13  
von

N°Référence  
Our reference  
Unser Auftrag Nr. : 333954/09

Produit  
Product  
Erzeugnisform : + ORIGIN : FRANCE FRANCE  
7221000000  
+STAINLESS STEEL WIRE ROD(HOT-ROLLED, IN IRREGULARLY WOUND COILS)  
SUH680VAR A6MM  
1,282.00 KG  
+PRICE TERM : CIF

DOCUMENTARY CREDIT NUMBER : M0806310EU00071

COMPOSITION CHIMIQUE (% poids)  
CHEMICAL COMPOSITION (% weight)  
CHEMISCHE ZUSAMMENSETZUNG (% Gewicht)

Coulée n°  
Heat Nr.  
Schmelze Nr. : QQ358/16

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	Co
.037	1.710	.088	.001	.013	24.560	14.800	1.250	.087	.205
V	Al	Ti	Pb	Bi	B	Fe			
.293	.185	2.180	< .0001	< .00002	.006	bal.			

**CARACTERISTIQUES MECANQUES ET AUTRES ESSAIS / TESTS RESULTS**

**ETAT DE LIVRAISON**

CONDITION OF DELIVERY

RESISTANCE..... TENSILE STRENGTH..... : 602 MPA  
ALLONGEMENT..... ELONGATION..... : 40 %  
STRICTION..... RED. OF AREA..... : 74 %  
GRAIN ASTM..... SIZE ASTM..... : 6.5 ASTM

CHEMISTRY TO MEET AMS 5731, AMS 5732, 5734 AND 5737  
NO WELDING WITH FILLER METAL HAS BEEN PERFORMED  
MATERIAL IS FREE FROM MERCURY, RADIUM, OR ALPHA SOURCE  
CONTAMINATION  
APPROVAL ACCORDING TO DESP 97/23/EC ANNEX I PARAGRAPH 4.3

TESTS RESULTS FOLLOW

QUALITY CONTROL

DELARBOULAS M.

Signature  
Signature  
Unterschrift

28/10/13  
Imphy plant.



# B/E Aerospace, Inc.

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## CONSUMABLES MANAGEMENT

P.O. Box 025263, Miami, FL 33102-5263 • Tel: 305.925.2600 • Fax: 305.507.7191  
Plant Location: 10000 N.W. 15th Terrace, Miami, FL 33172 • SITA: MIAMMCR  
www.beconsumables.com

Shipped From: 10000 NW 15 TERRACE, MIAMI, FL 33172


### Material Certification

The items set forth on the purchase order referred to below have been visually inspected and the dimensions thereof have been measured by us, and based on the aforesaid, as well as the representation made to us by the manufacturers of the items subject of such purchase order, we hereby certify that such items are in conformity with all current governmental and manufacturer's requirements, specifications, drawings, and conform to the purchase order requirements. Said items are in new condition and have not been obtained from any U.S. Government or Military source and are traceable to B/E Aerospace, Inc.

**FIRM: DART AEROSPACE LTD**

**PURCHASE ORDER#: PO26028**

LINE#	QUANTITY	U/M	PART-NUMBER	CUST REF#	LOT-NUMBER	MANUFACTURER	CCODE	MFR DATE	EXP DATE
2	40	EA	NAS43DD3-10FC		0081939	MINI MAC	8X408		

  
Jason Lewis  
Vice President of Quality

10/07/14

# Mini-Mac, Inc.

**Ship To**  
1703 Southwest Blvd  
Wichita, KS 67213

**Mail To**  
P.O. Box 286  
Derby, KS 67037

Phone (316) 733 - 0661  
Fax (316) 733 - 4250  
Fed Tax ID 48-0768147

**Packing Slip**

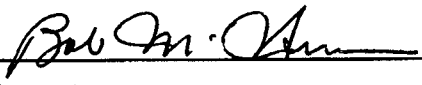
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## Sold To

B/E Aerospace, Inc.  
P.O. Box 025263  
Miami, FL 33102-5263

## Shipped To

B/E Aerospace, Inc.  
9835 NW 14th Street  
Miami, FL 33172

<b>Freight Collect</b> UPS / Acct# 363159		<b>COD Charge</b>	<b>Insured Value</b>
<b>Date Shipped</b> 08/21/13	<b>Your Order No.</b> OMEB21		<b>Packing Slip No.</b> 0081939
<b>Quantity</b>  25,000 EA	<b>Description</b>  NAS43DD3-10FC Rev 12 Prod Lot#: 0081939		
<p style="text-align: center;"><b>Certificate of Conformance</b></p> <p>We hereby certify that the materials covered by this certification meet the applicable requirements of this order, drawing, and/or specification. Supporting evidence is on file for examination.</p> <p style="text-align: center;"> Inspector</p>			

Original